

## The Farewell Dossier

Gus W. Weiss

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*We communists have to string along with the capitalists for a while. We need their credits, their agriculture, and their technology. But we are going to continue massive military programs and by the middle 1980s we will be in a position to return to a much more aggressive foreign policy designed to gain the upper hand in our relationship with the West.*

Leonid Brezhnev. Remarks in 1971 to the Politburo at the beginning of détente.

During the Cold War, and especially in the 1970s, Soviet intelligence carried out a substantial and successful clandestine effort to obtain technical and scientific knowledge from the West. This effort was suspected by a few US Government officials but not documented until 1981, when French intelligence obtained the services of Col. Vladimir I. Vetrov, “Farewell,” who photographed and supplied 4,000 KGB documents on the program. In the summer of 1981, President Mitterrand told President Reagan of the source, and, when the material was supplied, it led to a potent counterintelligence response by CIA and the NATO intelligence services.

President Nixon and Secretary of State Kissinger conceived of détente as the search for ways of easing chronic strains in US–Soviet relations. They sought to engage the USSR in arrangements that would move the superpowers from confrontation to negotiation. Arms control, trade, and investment were the main

substantive topics. The Soviets viewed détente as “peaceful coexistence” and as an avenue to improve their inefficient, if not beleaguered economy using improved political relations to obtain grain, foreign credits, and technology.<sup>1</sup> In pure science, the Soviets deserved their impressive reputation, and their space program demonstrated originality and accomplishment in rocket engineering—but they lacked production know-how necessary for long-term competition with the United States. Soviet managers had difficulty in translating laboratory results to products, quality control was poor, and plants were badly organized. Cost accounting, even in the defense sector, was hopelessly inadequate. In computers and microelectronics, the Soviets trailed Western standards by more than a decade.

### Soviet S&T Espionage

The leadership recognized these shortcomings. To address the lag in technology, Soviet authorities in 1970 reconstituted and invigorated the USSR’s intelligence collection for science and technology. The Council of Ministers and the Central Committee established a new unit, Directorate T of the KGB’s First Chief Directorate, to plumb the R&D programs of Western economies. The State Committee on Science and Technology and the Military-Industrial Commission were to provide Directorate T and its operating arm, called Line X, with collection requirements. Military Intelligence (GRU), the Soviet

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Academy of Sciences, and the State Committee for External Relations completed the list of participants. The bulk of collection was to be done by the KGB and the GRU, with extensive support from the East European intelligence services. A formidable apparatus was set up for scientific espionage; the scale of this structure testified to its importance. The coming of détente provided access for Line X and opened new avenues for exploitation. Soviet intelligence took full advantage.

In the early 1970s, the Nixon administration had no comprehensive policy for economic relations with the USSR. The sale of strategic goods to Communist countries was governed by the Coordinating Committee of NATO (COCOM), which administered an Alliance-agreed list of products and data embargoed for sale. Nixon's policy worked within this system, and, for the export of products exceeding the approved list, special exceptions were necessary. And, in a new set of commercial and scientific arrangements, the United States and the USSR set up joint technical commissions to assess prospects for cooperation. Topics included agriculture, nuclear energy, computers, and the environment. As Kissinger noted:

*Over time, trade and investment may leaven the autarkic tendencies of the Soviet system, invite gradual association of the Soviet economy with the world economy, and foster a degree of interdependence that adds an element of stability to the political relationship.<sup>2</sup>*

Beginning in 1972, delegations of Soviet specialists came to the United

States to visit firms and laboratories associated with their commissions. Line X, ever alert, populated these delegations with its own people: in an agricultural delegation of 100 about one-third were known or suspected intelligence officers. On a visit to Boeing, a Soviet guest applied adhesive to his shoes to obtain metal samples. In another episode, the ranking scientists and managers of the Soviet computer and electronics industry obtained a visa for the specific purpose of visiting the Uranus Liquid Crystal Watch Company of Mineola, Long Island (a firm not among the *Fortune* 500). Three days before the delegation's arrival, they requested an expansion of the itinerary to include nearly all US computer and semiconductor firms. This maneuver was done to observe (that is, collect) the latest technology, and it was executed at the last minute so that the Defense Department would not have time to object. It was legal—Line X had studied our regulations and turned them to its advantage.

To acquire the latest aircraft technology, the Soviets in 1973 proposed purchasing 50 Lockheed transports if the firm, then in financial difficulty, would build and equip a modern "aircraft city" in the USSR. A similar proposition was put to Boeing (it besieges the imagination to ponder Brezhnev appearing from the cabin of an Aeroflot 747). Line X practiced the venerable capitalist technique of playing off competitors, and, from this bidding, the Soviets sought to gain technical data for use at home. On a less lofty technical plane, in 1972 the Soviets surreptitiously bought 25 percent of the US grain harvest, using phone intercepts of the grain dealers' network to listen to both sides of the market. The purchase led to

higher grain prices for consumers, and taxpayers provided for a 25-percent-a-bushel export subsidy. Those of us observing these arabesques began to question the USSR's total commitment to the spirit of détente.

### US Computer Export Policy

In late 1973, President Nixon asked his Council on International Economic Policy to determine which computers and associated production technology might be prudently sold to Communist countries. This study was necessary because détente implied the expansion of commercial opportunities with Eastern Europe and the USSR; a new and more liberal set of COCOM rules was required to fit these prospects, however illusory they may have been. Data processing was the most important product requiring review. I was put in charge of the project, and I was also made responsible for the broader problem of technology transfer. The computer study was the first review of technology policy within détente; it sought to assess the economic gain to the United States from computer sales set against the national security risk from those sales.

Not surprisingly, the study concluded that the USSR was short of computers and the means to pay for substantial computer imports. Our analysis presumed that the Soviets intended to use their foreign exchange to best advantage by purchasing the most powerful computers, those that also held the most national security risk (large computers were used for nuclear weapons calculations and cryptography). The report concluded that the export potential for American data processing to the USSR was

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small and the risk great if the more powerful computers were allowed for sale. The study recommended raising moderately the power of machines allowed for COCOM release, while at the same time restricting the sale of technology. Export of the largest computers was to be prohibited. In National Security Decision Memorandum (NSDM) 247, 14 March 1974, *U. S. Policy on the Export of Computers to Communist Countries*, President Nixon approved these recommendations, and they became the new export guidelines. As a result, the Soviets were excluded from importing significantly powerful Western computers, détente notwithstanding.

If the Soviets were to reach comparability with the United States in computers, their engineers would on their own now have to create designs and produce equipment. Line X would have to use its espionage resources to supplement what could be developed at home. NSDM 247 eliminated the West as an open source available to the Soviets, but Western intelligence was unaware of the collection apparatus the Soviets had deployed to obtain the technology.

### **Strong Suspicions and Skepticism**

In the early 1970s, there were no US intelligence collection requirements for technology transfer and scientific espionage, and few, if any, reporting sources. But, by observing the behavior of Soviet delegations visiting US plants and by keeping in mind the clever 1972 grain purchase, a few government officials began to suspect that a master plan was in place to obtain our know-how. Direct evidence was nonexistent—only anecdotal

clues were at hand. In their intelligence history, the Soviets could point to the success of the atom bomb spies, and they also had to their credit collection against industrial technology in Germany during the 1920s. After World War II, the Soviets copied the American B-29 and the Rolls-Royce Nene jet engine (the copy powered the MiG-15). Two former members of the Rosenberg network had set up the modern Soviet microelectronics industry. Soviet intelligence was professional at ferreting out science and technology and had the results to prove it. The Soviets were adept at copying foreign designs. In the style of Sherlock Holmes, the clues could almost speak for themselves: the USSR was behind in important technologies, their intelligence was accomplished at collection, and détente had opened a path.

Those suspicious of a Great Game in technology espionage found that the US Government was not 221 B Baker Street—we could make little headway in persuading officials in charge of intelligence requirements that the United States was facing a significant threat. We received discouraging responses to our pleas for help: “No evidence” of a grand design; “not usual Soviet practice;” “no requirements and no interest;” “no sources.” It seemed to have escaped these authorities that having

no evidence does not mean it is not true. The system defied movement.

A few alert colleagues were dispersed among the executive departments. In one episode, the Department of Commerce discovered a Line X effort to obtain an embargoed computer through a dummy corporation set up for this one transaction; officials intercepted the shipping container and substituted sandbags. (A note was enclosed, but it would not be politically correct to quote it.) In 1975, the Apollo-Soyuz spacecraft docking was used to gain intelligence access to the US space program. This project was conceived by the Nixon administration as part of détente, and President Ford had no choice but to continue the effort. To the consternation of NASA, a few weeks before the launch counterintelligence suspected that one of the Cosmonauts was a KGB officer who had been collecting away over the course of the project.

### **Presidential Interest**

President Carter was the first chief executive to take an interest in technology loss. During his administration, CIA had begun to report the diversion of computers from the West into the Soviet defense complex, and he wanted details. In response, the Agency assigned staff to this endeavor and produced a more complete picture of technology loss than had been available since the start of Directorate T. Carter also ordered the first comprehensive study of technology transfer, Presidential Review Memorandum 31, a document that only distantly addressed the threat from clandestine collection. It was largely a missed opportunity, but

Carter responded to the Soviet invasion of Afghanistan by instituting sanctions, canceling several computer sales, and stopping equipment destined for the Kama River truck plant.

President Reagan came to office intent on reversing what he saw as the “window of vulnerability” favoring the Soviets in strategic weapons. He also believed that the USSR’s economy did not work and that the Soviet system was on the way to collapse. His intuition led him to believe the Cold War could be won. Joining Reagan’s NSC staff were those of us who thought similarly and entertained the idea that economic pressure would have some effect. The NSC staff sought to fashion policies to take advantage of the USSR’s low productivity, its lag in technology, oppressive defense burden, and inefficient economic structure. Reagan was the first president for whom this line of thought would have been even remotely acceptable.

### **A Defector in Place**

Into the receptive climate of the Reagan administration came President Mitterrand, bearing news of Farewell—that is, Colonel Vetrov. In a private meeting associated with the July 1981 Ottawa economic summit, he told Reagan of the source and offered the intelligence to the United States. It was passed through Vice President Bush and then to CIA. The door had opened into Line X.

Vetrov was a 53-year-old engineer assigned to evaluate the intelligence collected by Directorate T, an ideal position for a defector in place. He had volunteered his services for

ideological reasons. He supplied a list of Soviet organizations in scientific collection and summary reports from Directorate T on the goals, achievements, and unfilled objectives of the program. Farewell revealed the names of more than 200 Line X officers stationed in 10 KGB *rezidents* in the West, along with more than 100 leads to Line X recruitments.<sup>3</sup>

Upon receipt of the documents (the Farewell Dossier, as labeled by French Intelligence) CIA arranged for my access. Reading the material caused my worst nightmares to come true. Since 1970, Line X had obtained thousands of documents and sample products, in such quantity that it appeared that the Soviet military and civil sectors were in large measure running their research on that of the West, particularly the United States. Our science was supporting their national defense. Losses were in radar, computers, machine tools, and semiconductors. Line X had fulfilled two-thirds to three-fourths of its collection requirements—an impressive performance.

### **Interest in Technology Transfer**

Overnight, technology transfer became a top priority, rising from the basement of Intelligence Community interest. CIA set up a Technology Transfer Intelligence Center, and the Pentagon created groups to assess damage and find ways to tighten technology controls. But careful study of Farewell’s material suggested that more than just a few committees could come out of this wealth of intelligence. With the Farewell reporting, CIA had the Line X shopping list for still-needed tech-

nology, and with the list American intelligence might be able to control for its purposes at least part of Line X’s collection, that is, turn the tables on the KGB and conduct economic warfare of our own.

I met with Director of Central Intelligence William Casey on an afternoon in January 1982. I proposed using the Farewell material to feed or play back the products sought by Line X, but these would come from our own sources and would have been “improved,” that is, designed so that on arrival in the Soviet Union they would appear genuine but would later fail. US intelligence would match Line X requirements supplied through Vetrov with our version of those items, ones that would hardly meet the expectations of that vast Soviet apparatus deployed to collect them.

If some double agent told the KGB the Americans were alert to Line X and were interfering with their collection by subverting, if not sabotaging, the effort, I believed the United States still could not lose. The Soviets, being a suspicious lot, would be likely to question and reject everything Line X collected. If so, this would be a rarity in the world of espionage, an operation that would succeed even if compromised. Casey liked the proposal.

### **A Deception Operation**

As was later reported in *Aviation Week and Space Technology*, CIA and the Defense Department, in partnership with the FBI, set up a program to do just what we had discussed: modified products were devised and “made available” to Line

X collection channels. The CIA project leader and his associates studied the Farewell material, examined export license applications and other intelligence, and contrived to introduce altered products into KGB collection. American industry helped in the preparation of items to be "marketed" to Line X. Contrived computer chips found their way into Soviet military equipment, flawed turbines were installed on a gas pipeline, and defective plans disrupted the output of chemical plants and a tractor factory. The Pentagon introduced misleading information pertinent to stealth aircraft, space defense, and tactical aircraft.<sup>4</sup> The Soviet Space Shuttle was a rejected NASA design.<sup>5</sup> When Casey told President Reagan of the undertaking, the latter was enthusiastic. In time, the project proved to be a model of interagency cooperation, with the FBI handling domestic requirements and CIA responsible for overseas operations. The program had great success, and it was never detected.

In a further use of the Farewell product, Casey sent the Deputy Director of Central Intelligence to Europe to tell NATO governments and intelligence services of the Line X threat. These meetings led to the expulsion or compromise of about 200 Soviet intelligence officers and their sources, causing the collapse of Line X operations in Europe. Although some military intelligence officers avoided compromise, the heart of Soviet technology collection crumbled and would not recover. This mortal blow came just at the beginning of Reagan's defense buildup, his Strategic Defense Initiative (SDI), and the introduction of stealth aircraft into US forces.

### National Security Directive

On 17 January 1983, to define his policy for political, military, and economic relations with the USSR, Reagan approved National Security Decision Directive (NSDD) 75, *U. S. Relations with the USSR*, a document spelling out purposes, themes, and strategy for competing in the Cold War. It specified three policy elements: containment and reversal of Soviet expansionism, promotion of change in the internal system to reduce the power of the ruling elite, and engagement in negotiations and agreements that would enhance US interests. In economic policy, NSDD 75 highlighted the need to control technology; Farewell's reports had moved those writing the Directive to put emphasis on preventing technology loss, and the President had agreed (so a KGB defector working for a foreign intelligence service put his stamp on a part of presidential policy). Later in 1983, Reagan proposed the SDI, which Gorbachev and the Soviet military took far more seriously than American commentators. SDI would, if deployed, place unacceptable economic and technical demands on the Soviet system. Even Reagan's 1983 "evil empire" speech had its economic effect, for immediately thereafter the Soviet military asked for a budget increase, this on top of already-bloated defense expenditures.

Two events beyond presidential control dovetailed with NSDD 75. The Federal Reserve's restrictive monetary policy of the early 1980s led to a fall in gold and primary product prices, sources of Soviet foreign

exchange. And the discovery of Alaskan North Shore oil contributed to the 1986 fall in petroleum prices, cutting the revenues not only of OPEC but also of the USSR. Coincident events and deliberate government policy had the twin effects of adding to the burden on the Soviet system and of shifting the superpower competition to advanced technology, where the United States held a clear advantage.

### Good-bye to Farewell

About the time I met with Casey, Vetrov fell into a tragic episode with a woman and a fellow KGB officer in a Moscow park. In circumstances that are not clear, he stabbed and killed the officer and then stabbed but did not kill the woman. He was arrested, and, in the ensuing investigation, his espionage activities were discovered; he was executed in 1983. CIA had enough intelligence to institute protective countermeasures.

In 1985, the case took a bizarre turn when information on the Farewell Dossier surfaced in France. Mitterrand came to suspect that Vetrov had all along been a CIA plant set up to test him to see if the material would be handed over to the Americans or kept by the French. Acting on this mistaken belief, Mitterrand fired the chief of the French service, Yves Bonnet.<sup>6</sup>

### An Important Contribution

In 1994, Gorbachev's science adviser, Roald Sagdeev, wrote that in computers and microelectronics—

the keys to modern civil and military technology—the Soviets trailed Western standards by 15 years and that the most striking indication of their backwardness was the absence of a domestically made supercomputer. The Soviets considered a supercomputer a “strategic attribute,” the lack of which was inexcusable for a superpower.<sup>7</sup> Line X did not acquire designs for such a machine, nor could Soviet computer scientists build one on their own—and NSDM 247 had stopped Western help. As for Farewell, his contribution led to the collapse of a crucial collection program at just the time the Soviet military needed it, and it resulted in a forceful and effective NATO effort to protect its technology. Along with the US defense buildup and an already floundering Soviet economy, the USSR could no longer compete, a conclusion reached by the Politburo in 1987.

When historians sort out the reasons for the end of the Cold War, perhaps Farewell will receive a footnote. It would be deserved.

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5. Conversation with James Fletcher, Administrator, NASA.
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3. For a primary source from a former KGB officer, see Oleg Gordievsky and Christopher Andrew, *KGB: The Inside Story*. New York, Harper Collins, 1991.